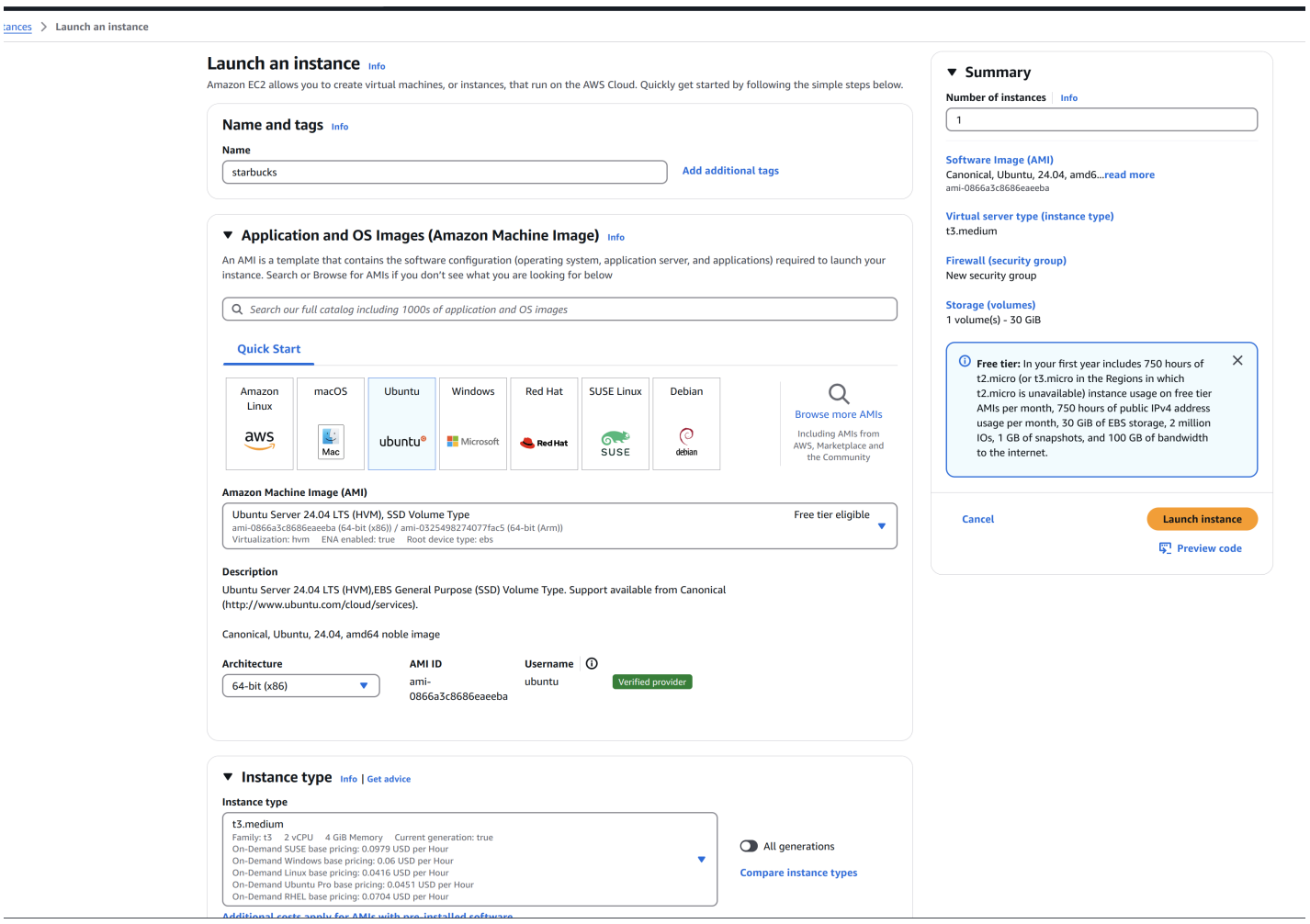
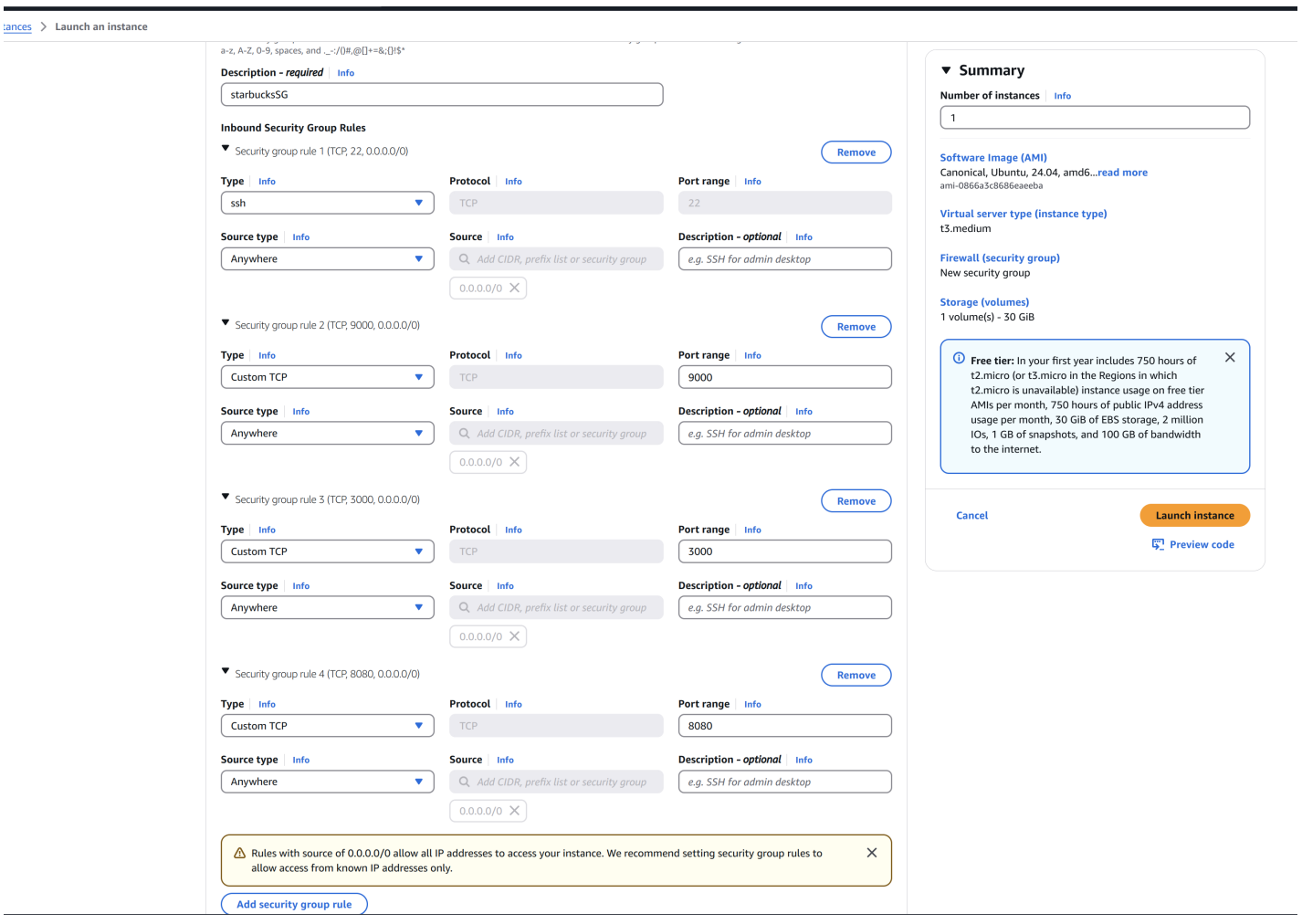
DevSecOps Project: Deploying Starbucks Clone on AWS

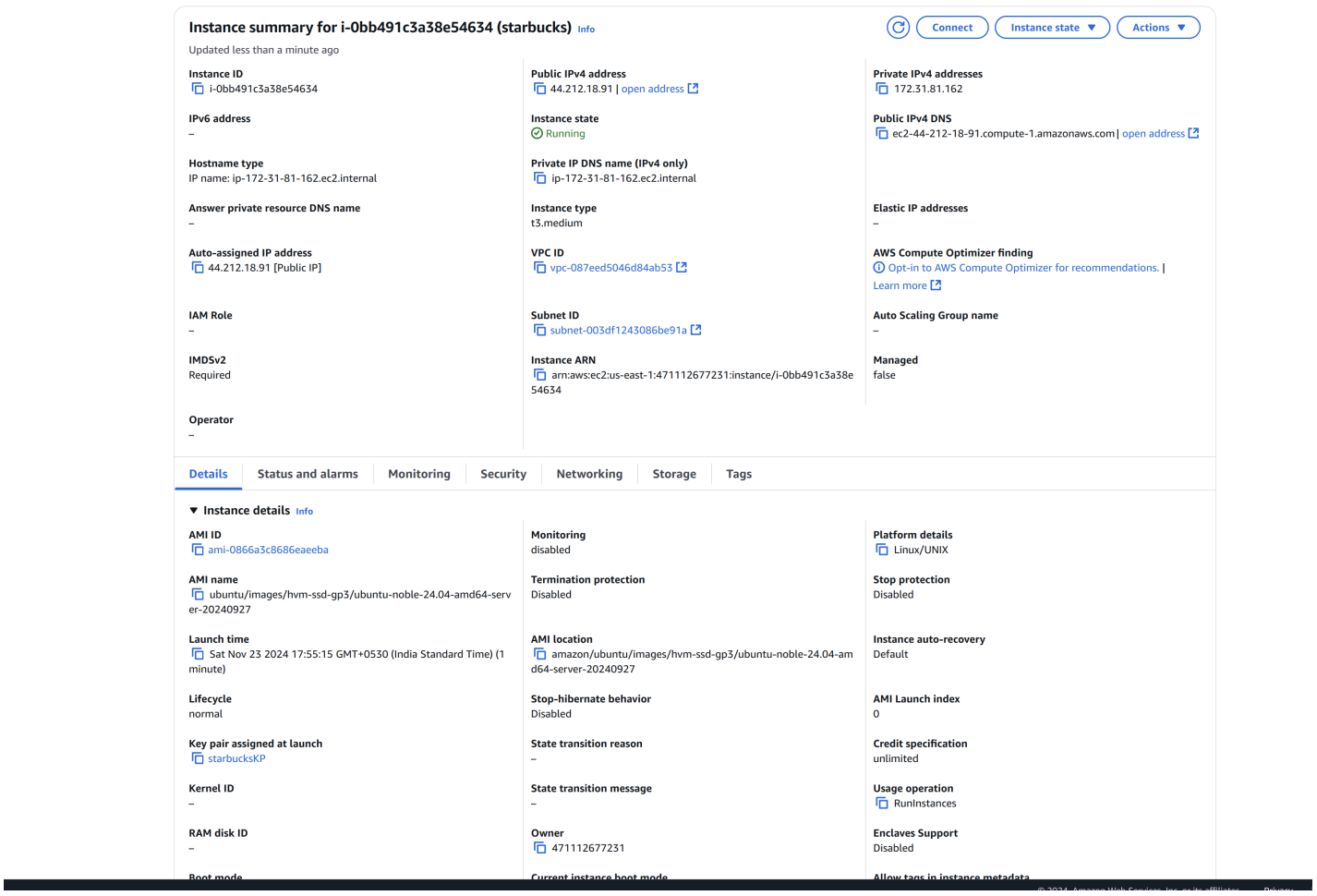
Github repo : https://github.com/saisabari24/starbucks

1. Create a Ubuntu EC2 instance (4vCPU recommend) with key pair

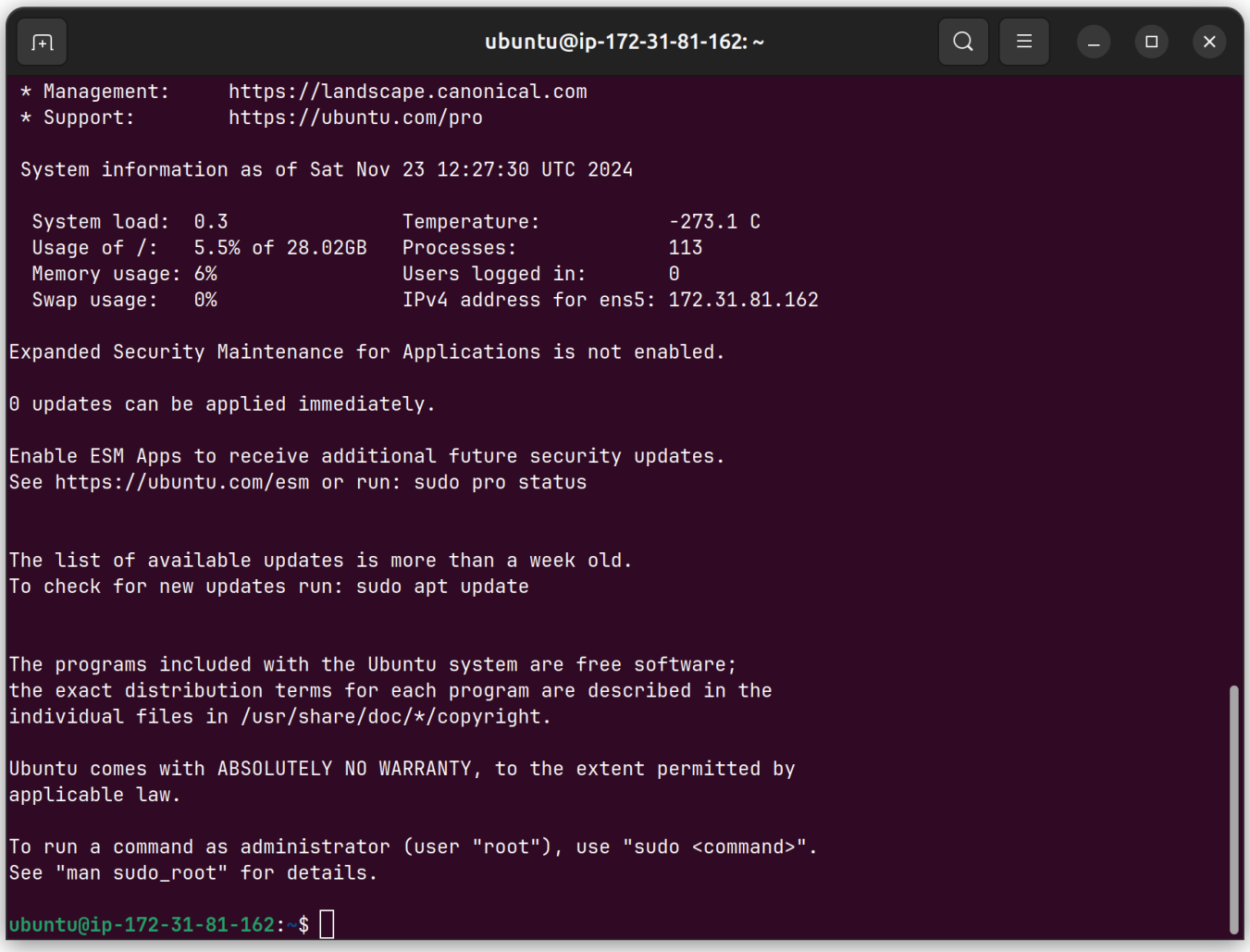


2. Create Security group with ports 22,3000,8080,9000 access

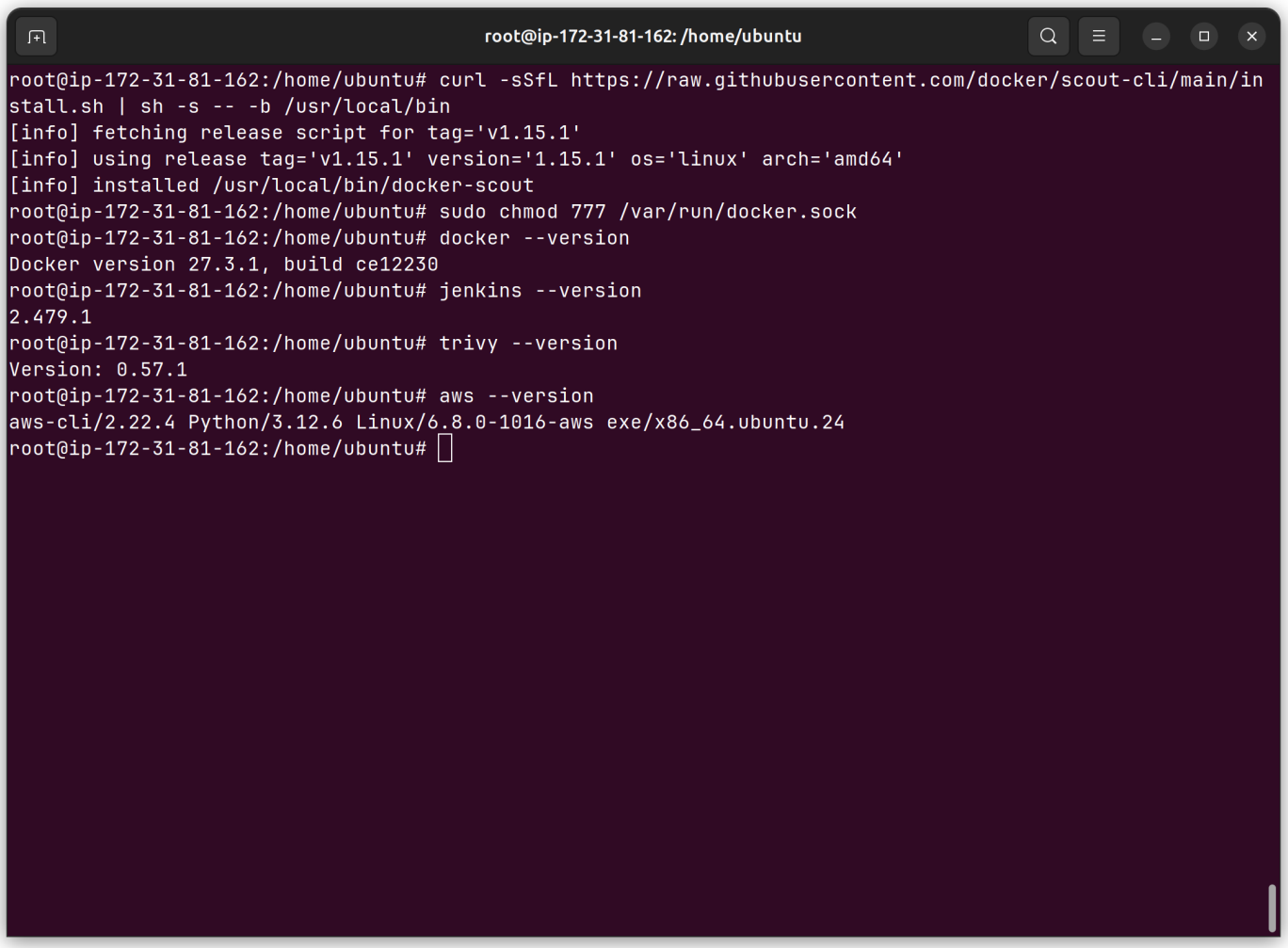




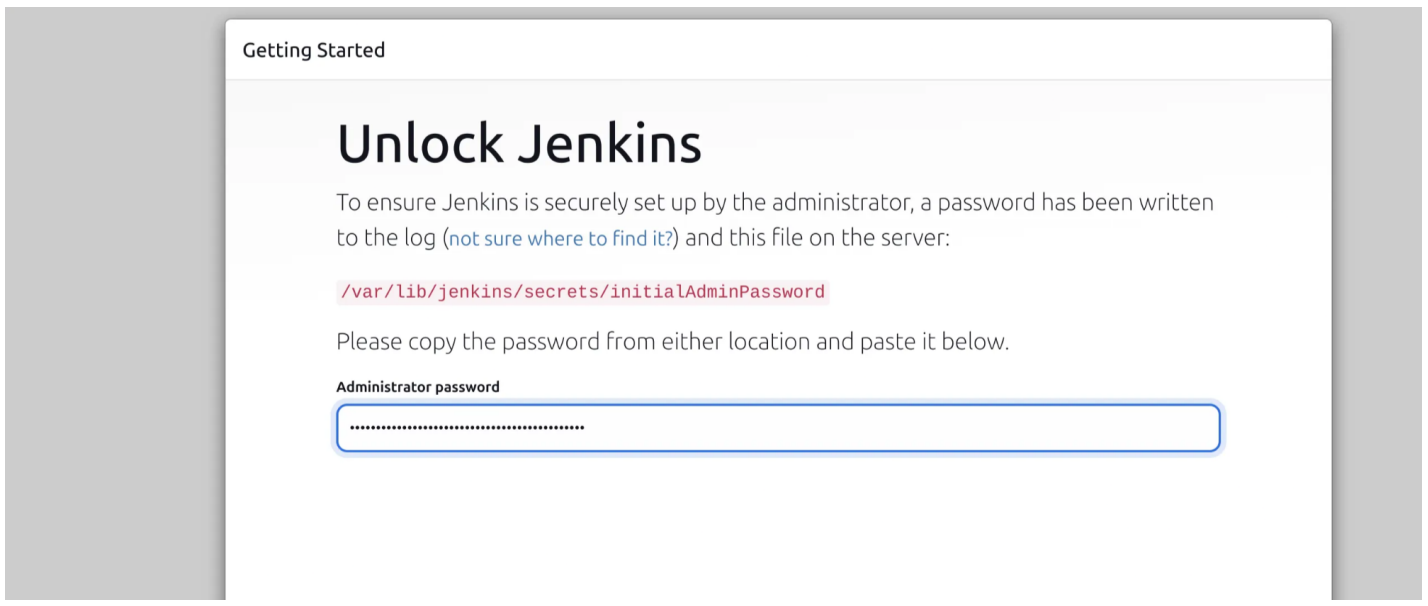
3. Login into the VM with Key pair (change the permission of the .pem file to avoid login issues)



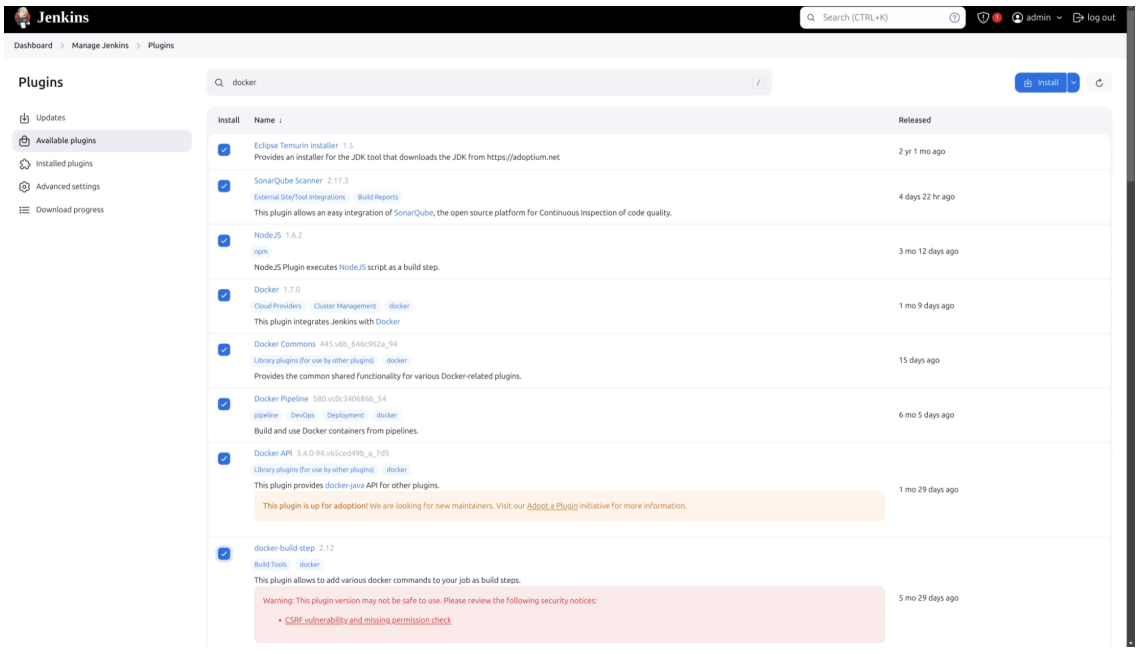
4. Follow the git repository and install the dependencies(AWS cli,Jenkins,Docker,Trivy and DockerScout) and verify whether they have installed properly

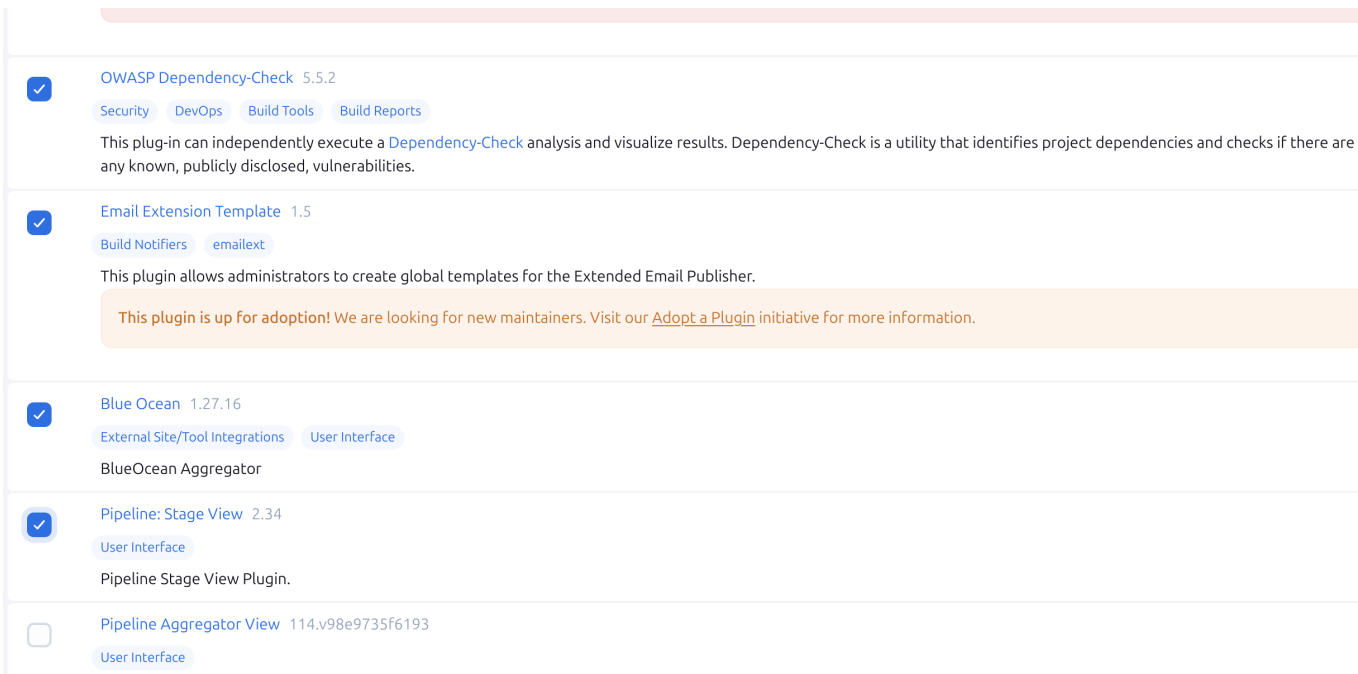


5. Jenkins
   - Hit the url http://<public_IP_address_of_VM>:8080 to access Jenkins
   - install suggested plugins
   - change credentials
   - Re-start Jenkins

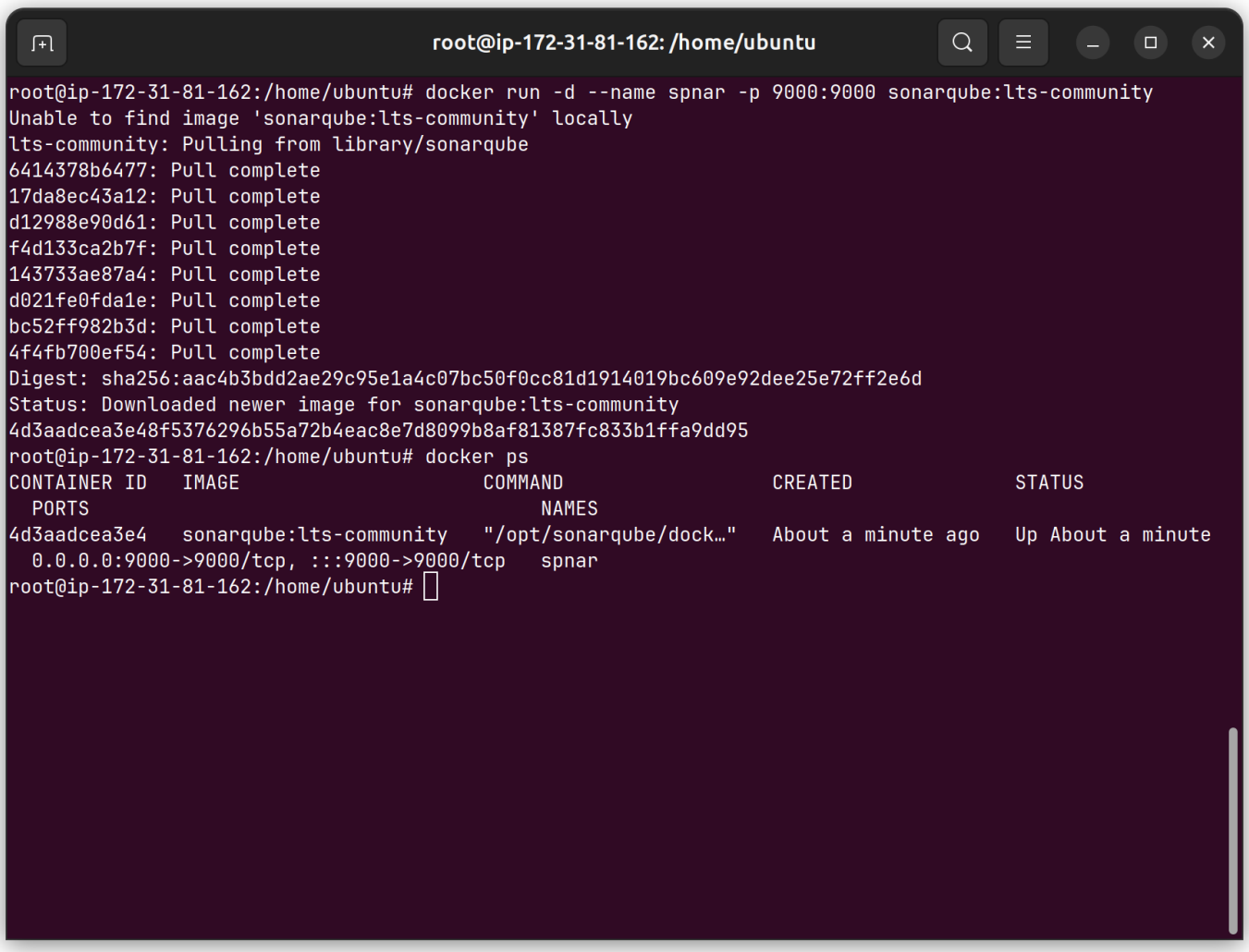


6. Goto → manage Jenkins →
   available plugins and install the plugins seen below and restart Jenkins





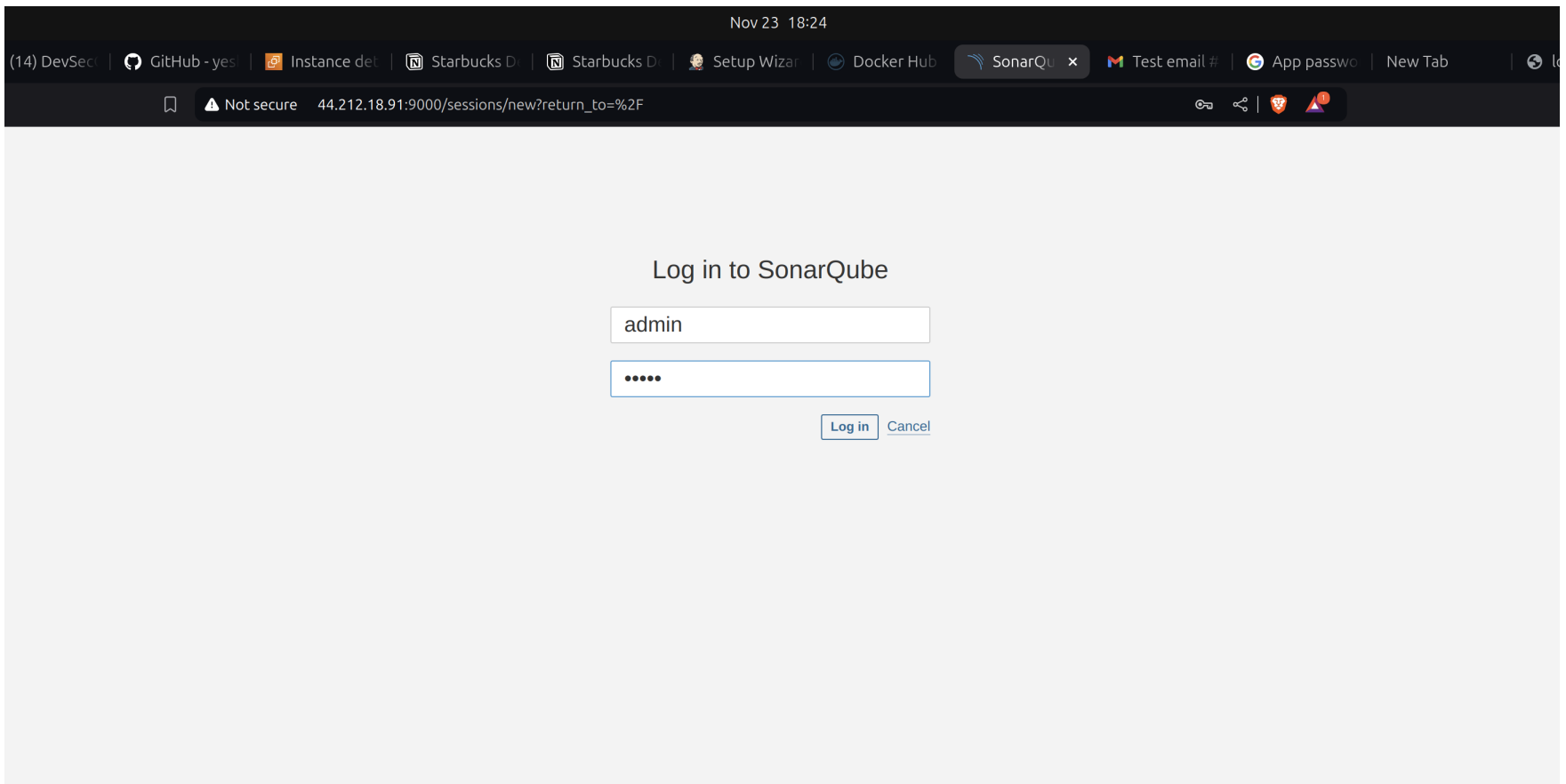
7. Run SonarQube as a docker container using the command



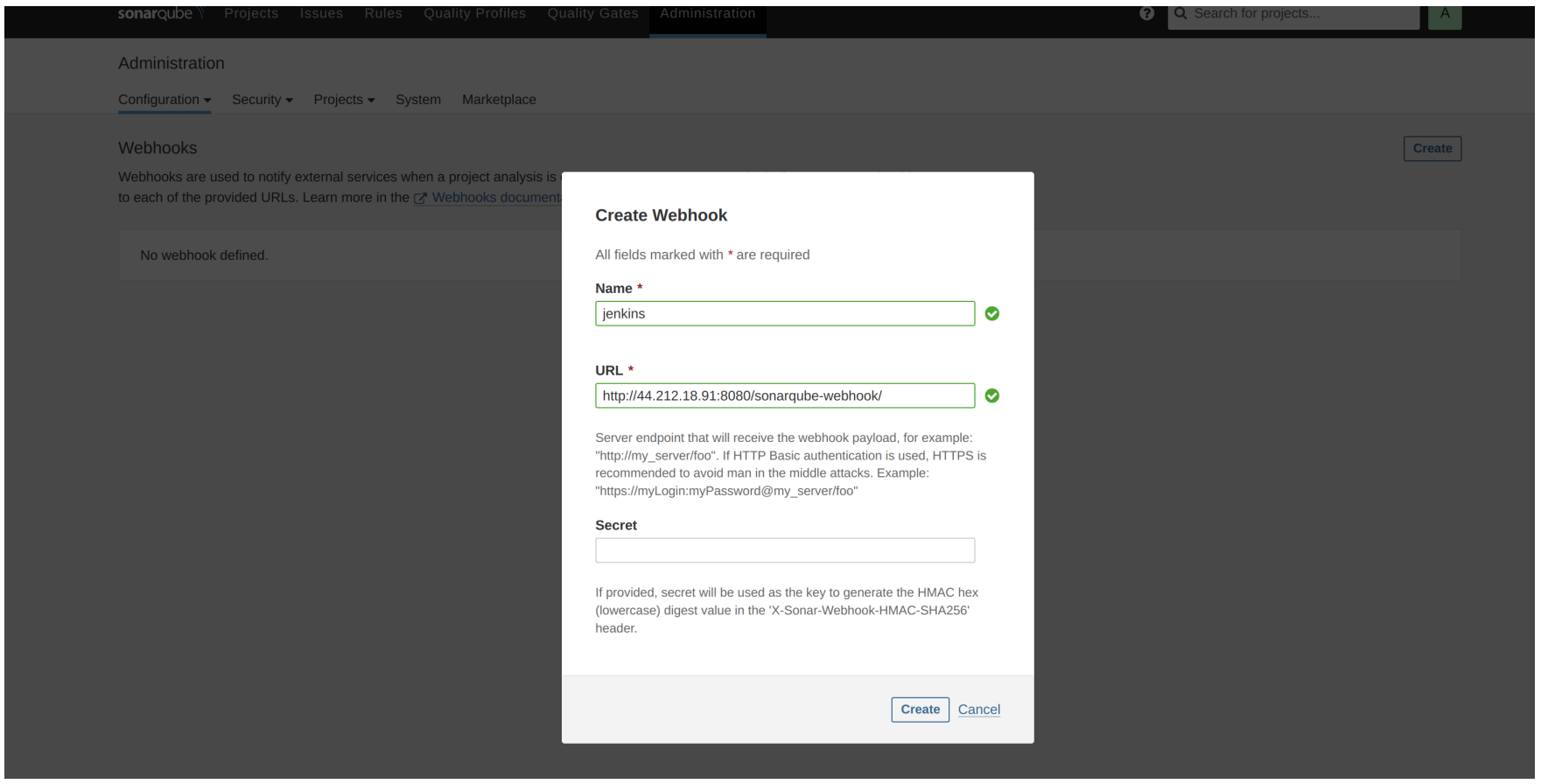

```
docker run -d —name sonar -p 9000:9000 sonarqube:lts-community
docker ps
```

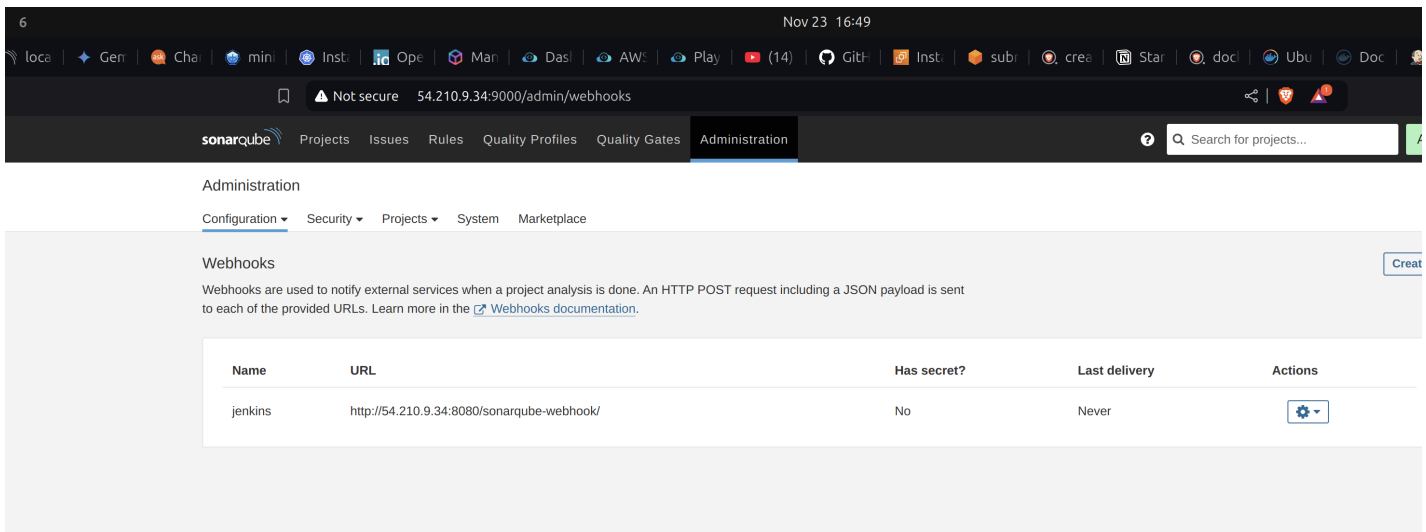
8. SonarQube

- Hit the url http://<public_IP_address_of_VM>:9000 to access sonarqube

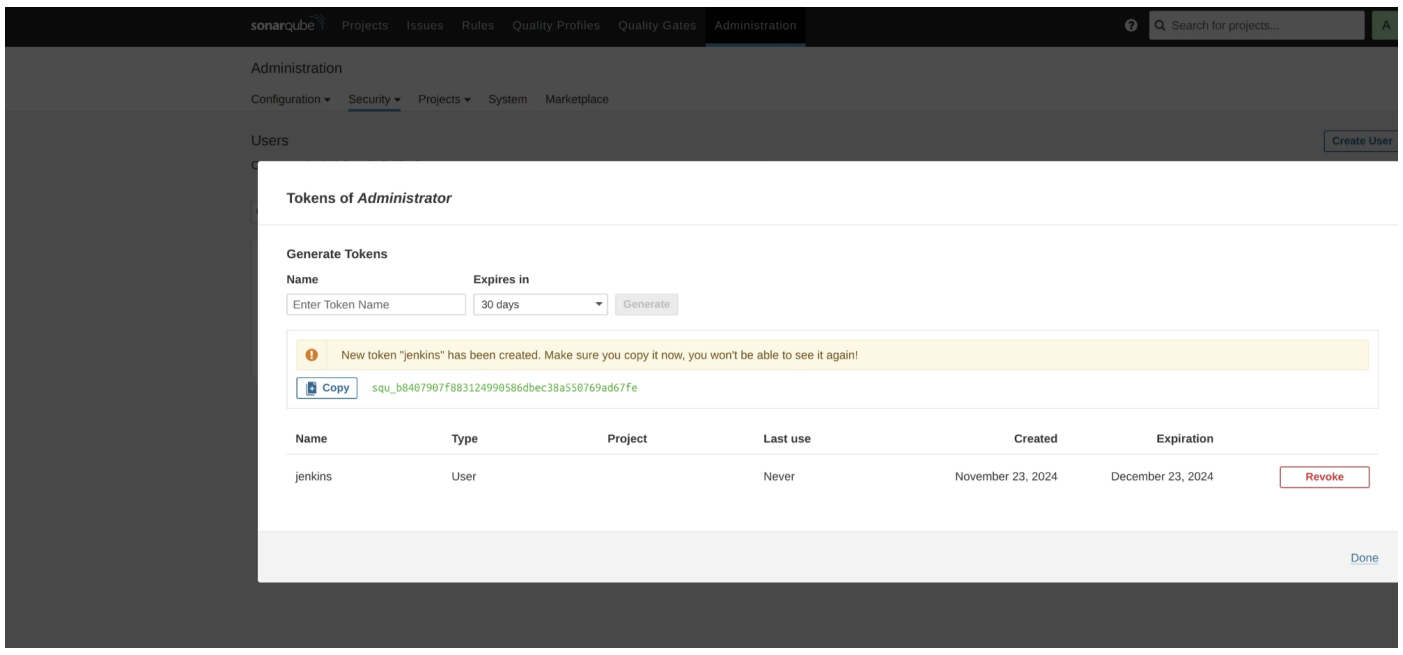


- change credentials
- goto→Adminstration →Configuration →Webooks and create a webhook for jenkins to create communication between Jenkins and Sonar
  Click on create and enter Name as “jenkins” and
  Url as “http://<public_IP_address_of_VM>:8080” and save

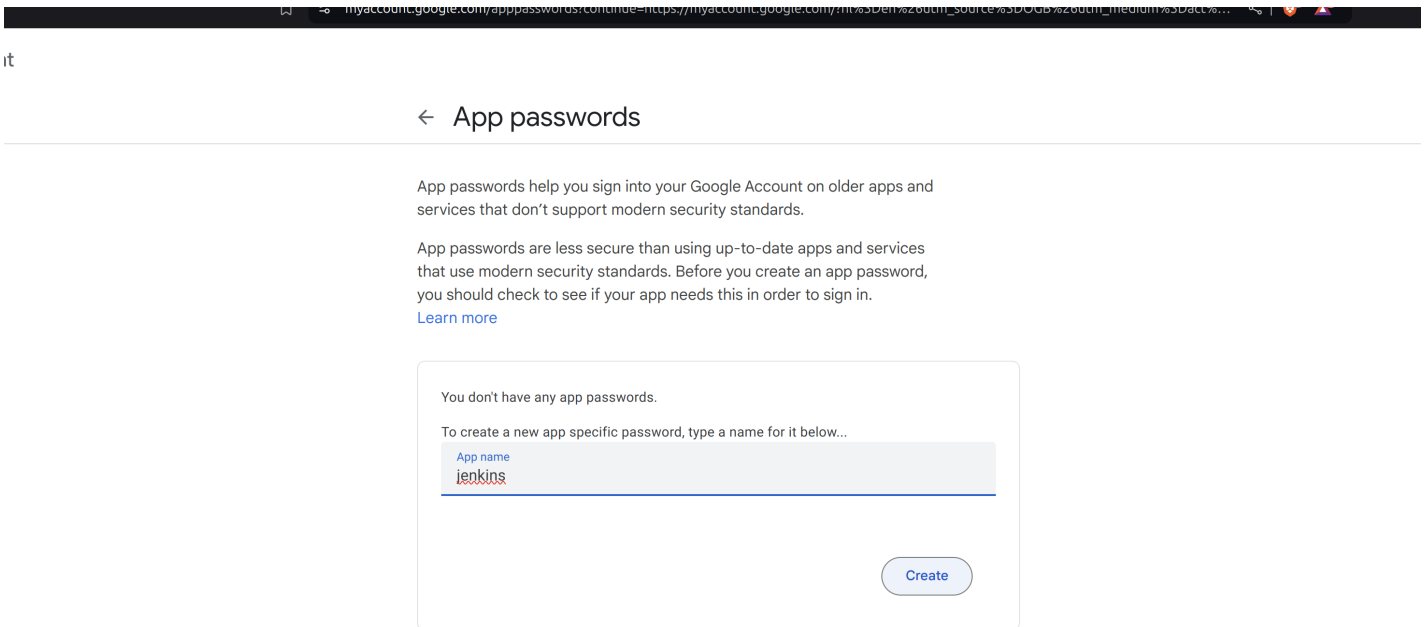




- goto →Administration→Security → Users and create a token for Jenkins
- copy the token

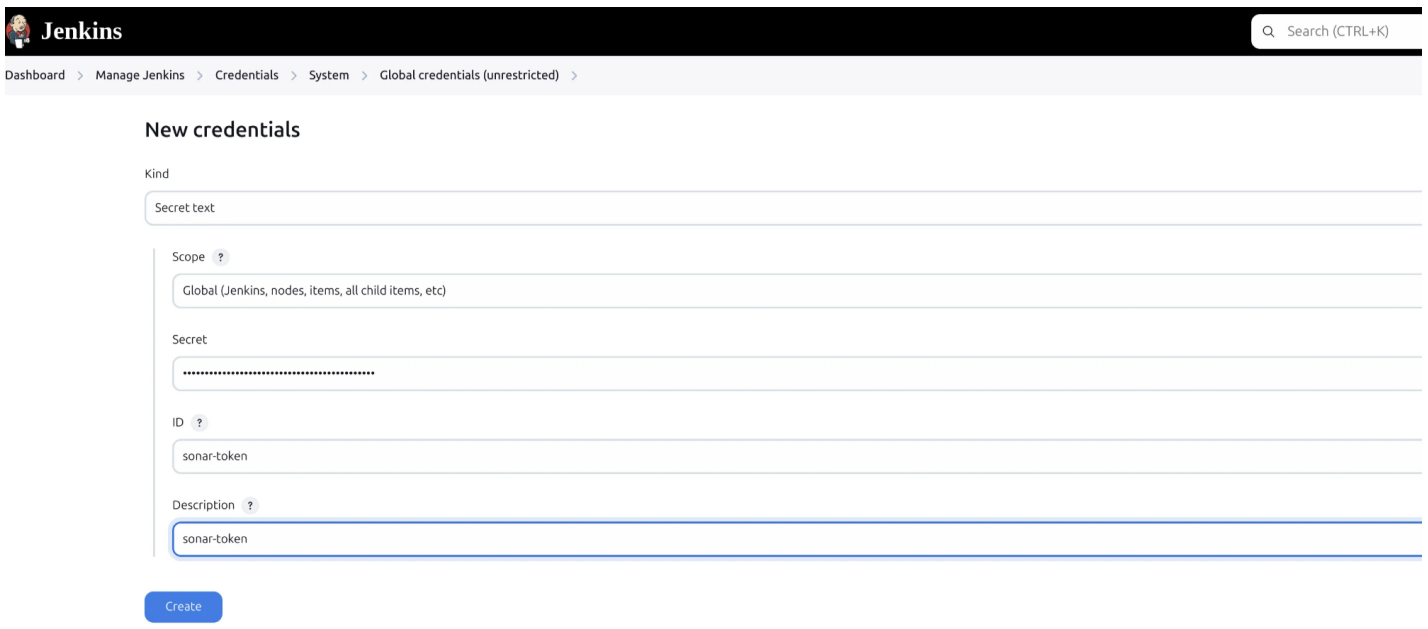


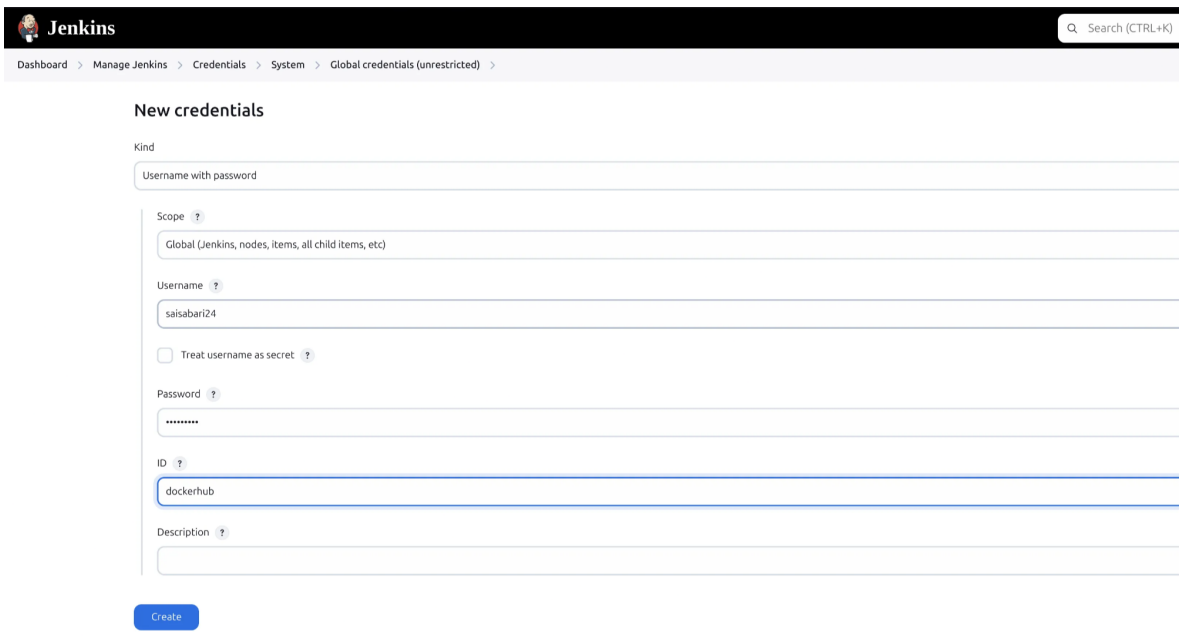
9. Create gmail app passoword
   goto gmail →manage you account → search “app password” and generate a password
   Copy the password without spaces and use it for credentials

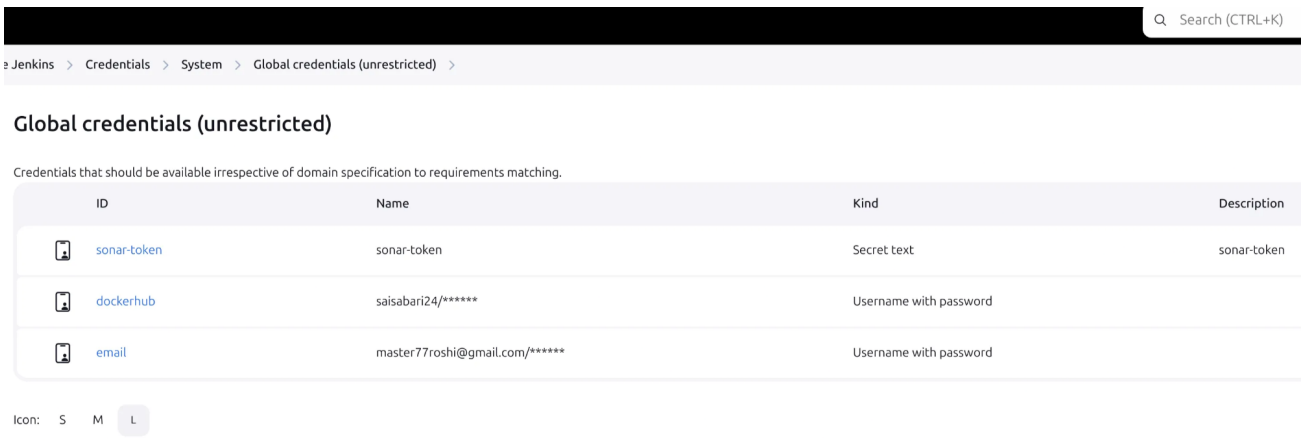


10. Jenkins Credentials
    - goto → manage jenkins → credentials → Global →add credentials
    - select Secret text in dropdown and paste the token copied from sonar into the secret field and ID as sonar-token and save
    - create another credential for dockerhub with username & password in dropdown and enter dockerhub credentials and save

- create another credential for email with username as email and password will be App password from gmail(will see it below)







11. Jenkins Tools
    Add the specific versions for JDK17 and node16 as seen below and rest of the tools can be latest version

JDK installations

Add JDK

JDK

Name

jdk

Install automatically

Install from adoptium.net

Version

jdk-17.0.8.1+1

Add Installer

Add JDK

SonarQube Scanner installations

Add SonarQube Scanner

SonarQube Scanner

Name

sonar-scanner

Install automatically

Install from Maven Central

Version

SonarQube Scanner 6.2.1.4610

Add Installer

NodeJS

Name

node16

Install automatically

Install from nodejs.org

Version

NodeJS 16.20.0

For the underlying architecture, if available, force the installation of the 32bit package. Otherwise the build will fail

Force 32bit architecture

Global npm packages to install

Specify list of packages to install globally -- see npm install -g. Note that you can fix the packages version by using the syntax `packageName@version`

Dependency-Check installations

Add Dependency-Check

Dependency-Check

Name

DP

Install automatically

Install from github.com

Version

dependency-check 11.1.0

Add Installer

Docker installations

Add Docker

Docker

Name

docker

Install automatically

Download from docker.com

Docker version

latest

Add Installer

12. Jenkins Systems
    - Search Sonar and setup with sonar url and sonar-token from credentials
    - Setup Email Notification and Extended Email Notification as seen below

SonarQube servers

If checked, job administrators will be able to inject a SonarQube server configuration as environment variables in the build.

Environment variables

SonarQube installations

List of SonarQube installations

Name

sonar-server

Server URL

Default is http://localhost:9000

http://54.210.9.34:9000/

Server authentication token

SonarQube authentication token. Mandatory when anonymous access is disabled.

sonar-token

Add

Advanced

Add SonarQube

Extended E-mail Notification

SMTP server

smtp.gmail.com

SMTP Port

465

Advanced

Edited

Credentials

master77roshi@gmail.com/******

Add

Use SSL

Use TLS

Use OAuth 2.0

Advanced Email Properties

E-mail Notification

SMTP server

smtp.gmail.com

Default user e-mail suffix ?

Advanced Edited

- [x] Use SMTP Authentication ?

User Name

master77roshi@gmail.com

Password

Concealed

- [x] Use SSL ?
- [ ] Use TLS

SMTP Port ?

465

Reply-To Address

Charset

UTF-8

- [ ] Test configuration by sending test e-mail

Save Apply

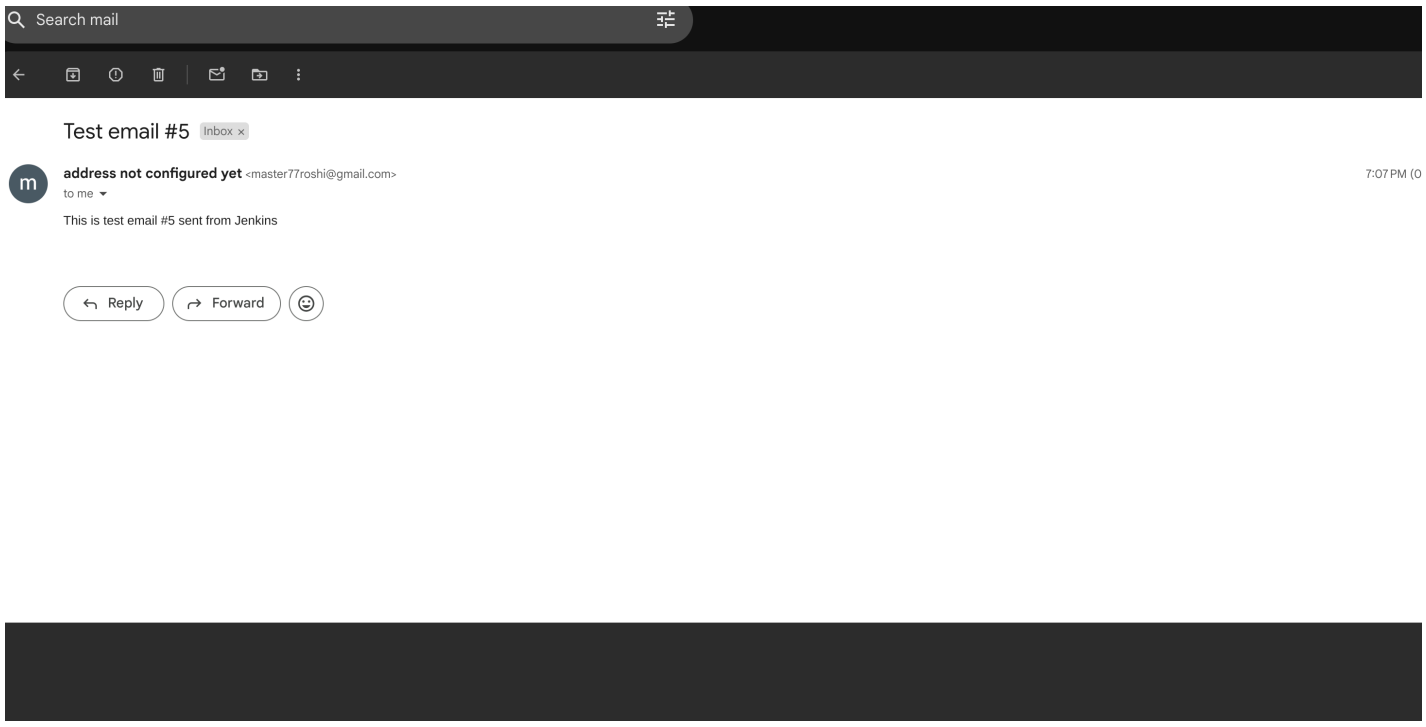
- [ ] Allow sending to unregistered users ?

Default Triggers

Default Triggers ?

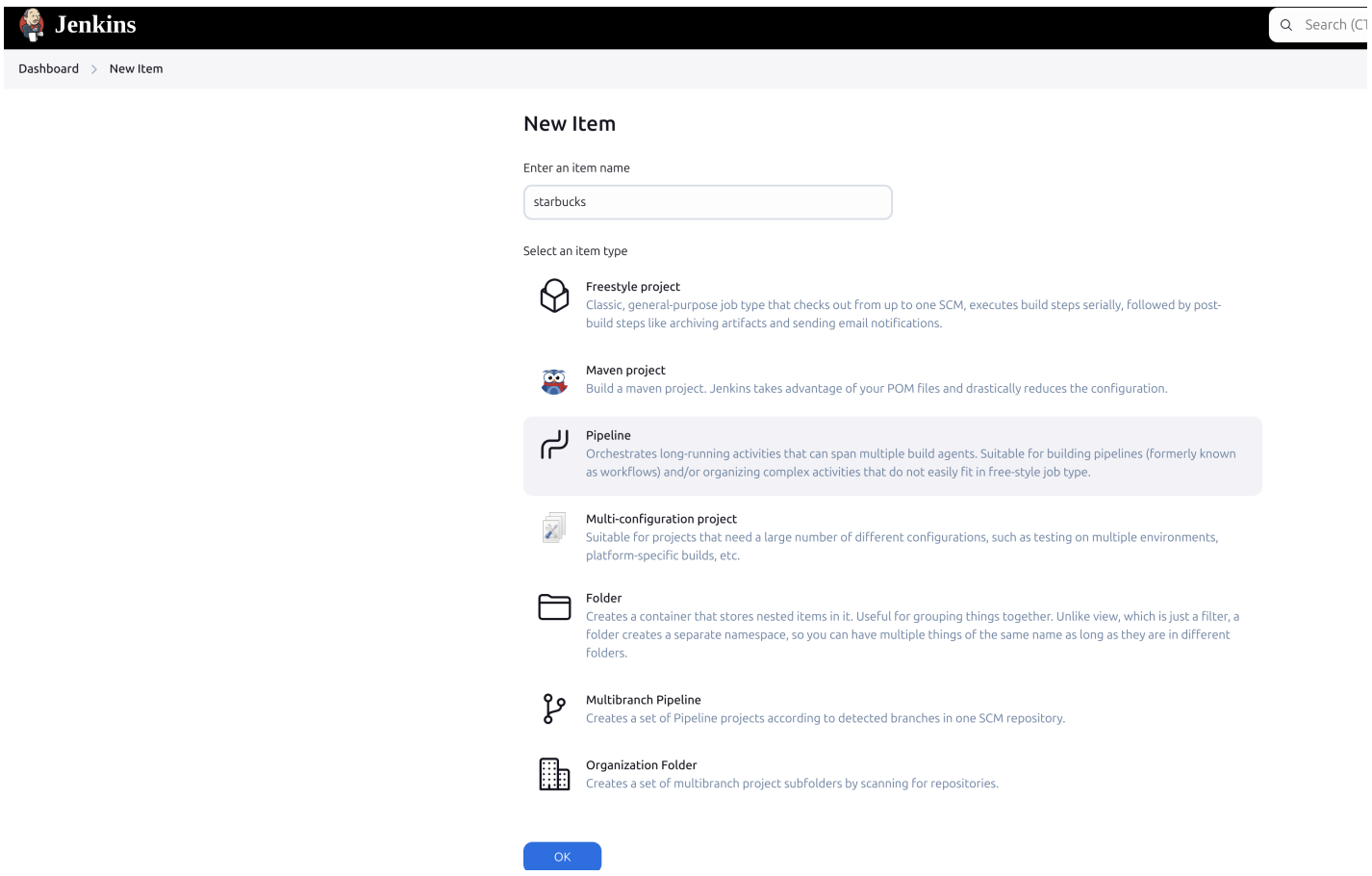
- [ ] Aborted
- [x] Always
- [ ] Before Build
- [ ] Failure - 1st
- [ ] Failure - 2nd
- [x] Failure - Any
- [ ] Failure - Still
- [ ] Failure - X
- [ ] Failure -> Unstable (Test Failures)
- [ ] Fixed
- [ ] Not Built
- [ ] Script - After Build
- [ ] Script - Before Build
- [ ] Status Changed
- [x] Success
- [ ] Test Improvement
- [ ] Test Regression
- [ ] Unstable (Test Failures)
- [ ] Unstable (Test Failures) - 1st
- [ ] Unstable (Test Failures) - Still
- [ ] Unstable (Test Failures)/Failure -> Success

Content Token Reference ?

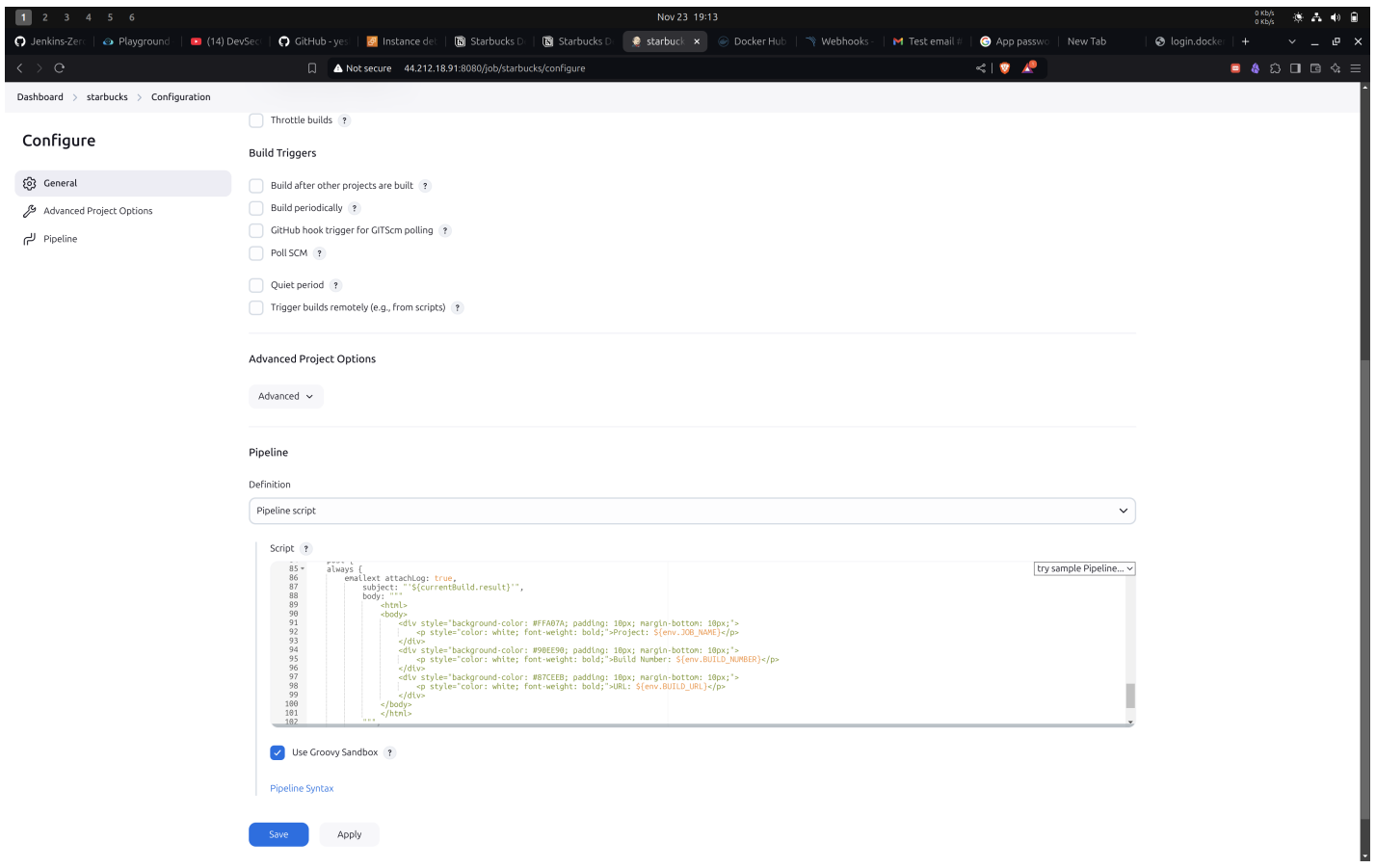


13. Jenkins Pipeline

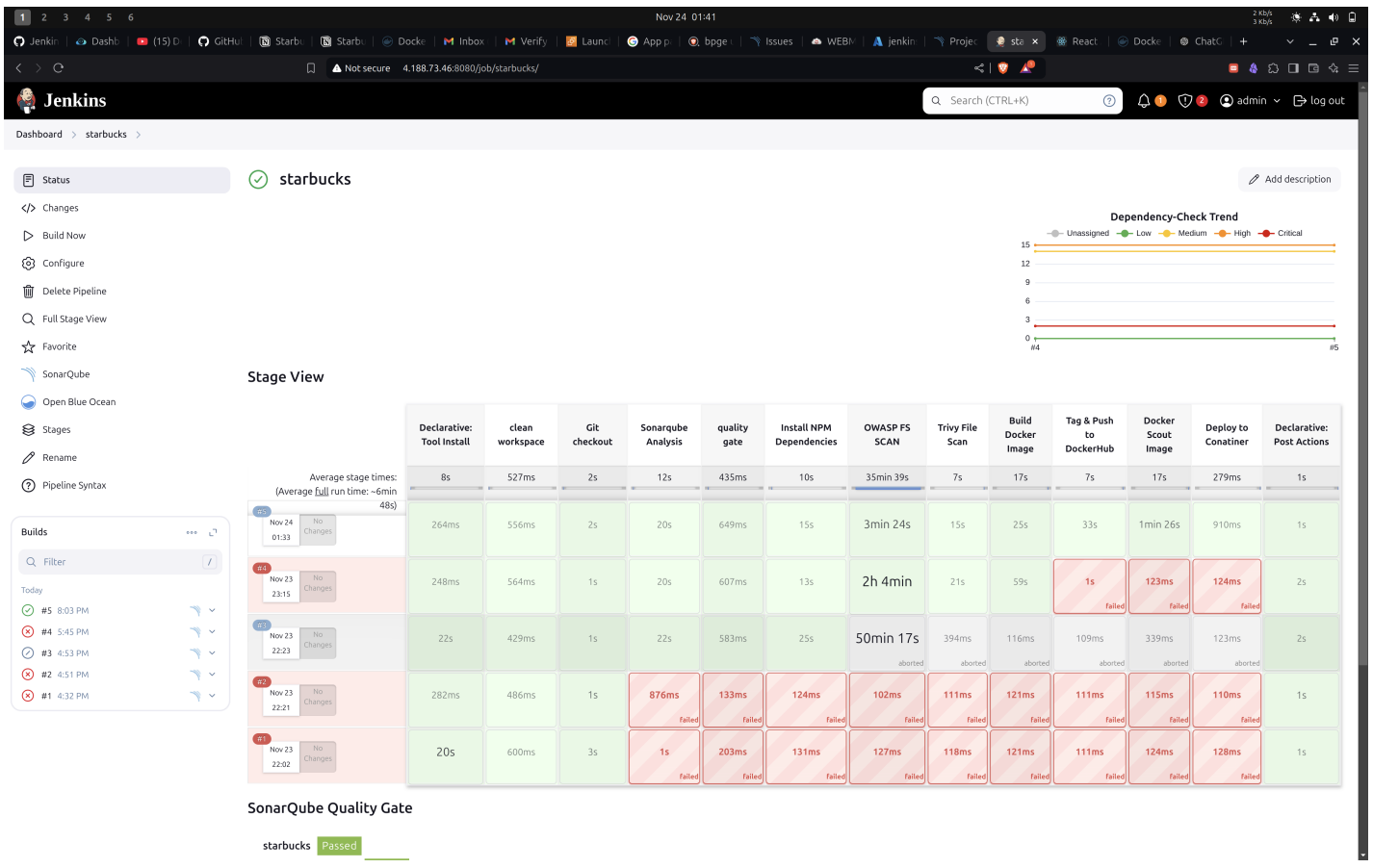
- Goto Dashboard → add new job/item
  enter Name as starbucks and type as Pipeline
  Click next



- Copy the Jenkins script from the github repository mentioned and paste in to Pipeline script
  change the dockerhub repo details
  change the “To” field to your email at the end of the script

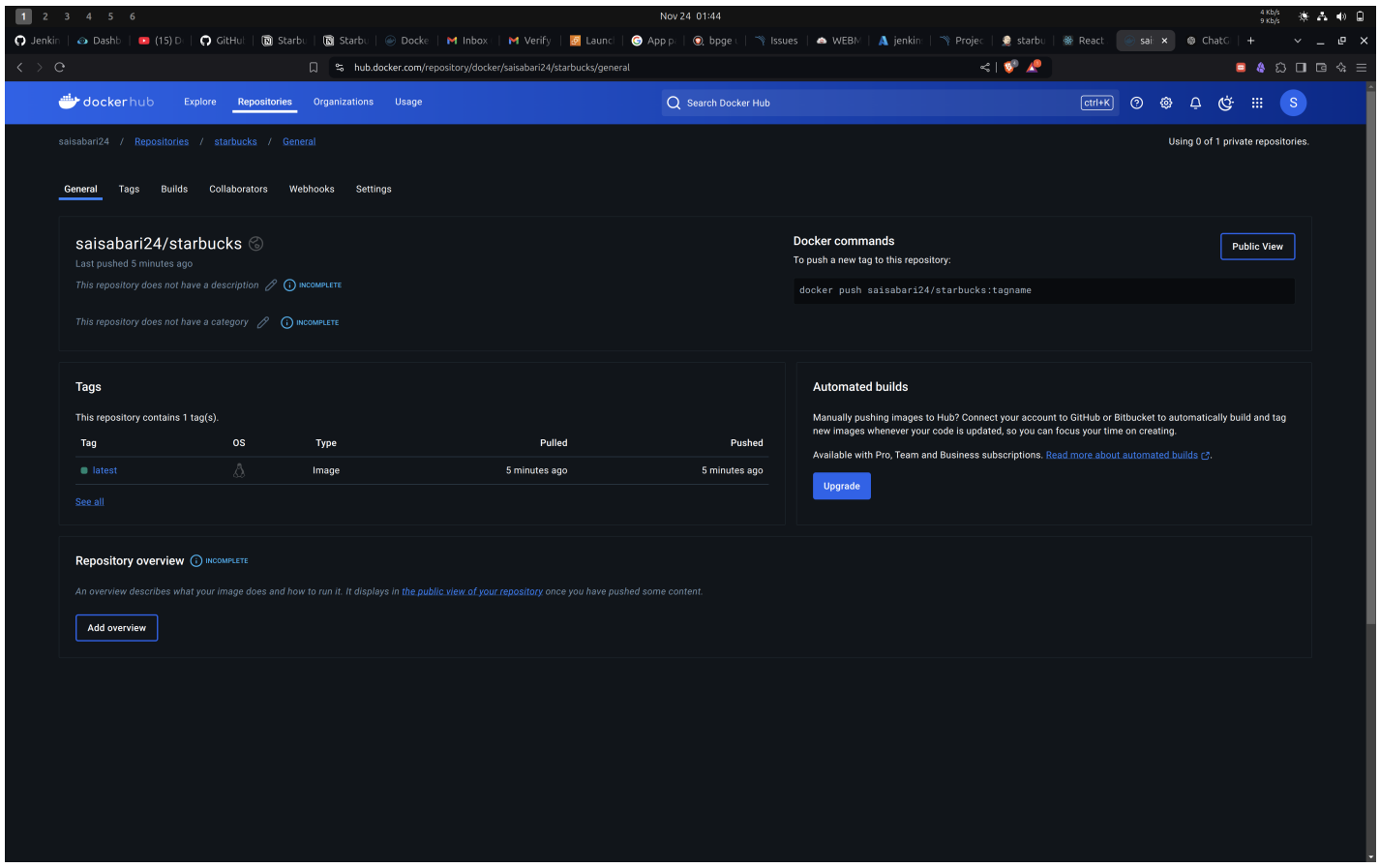


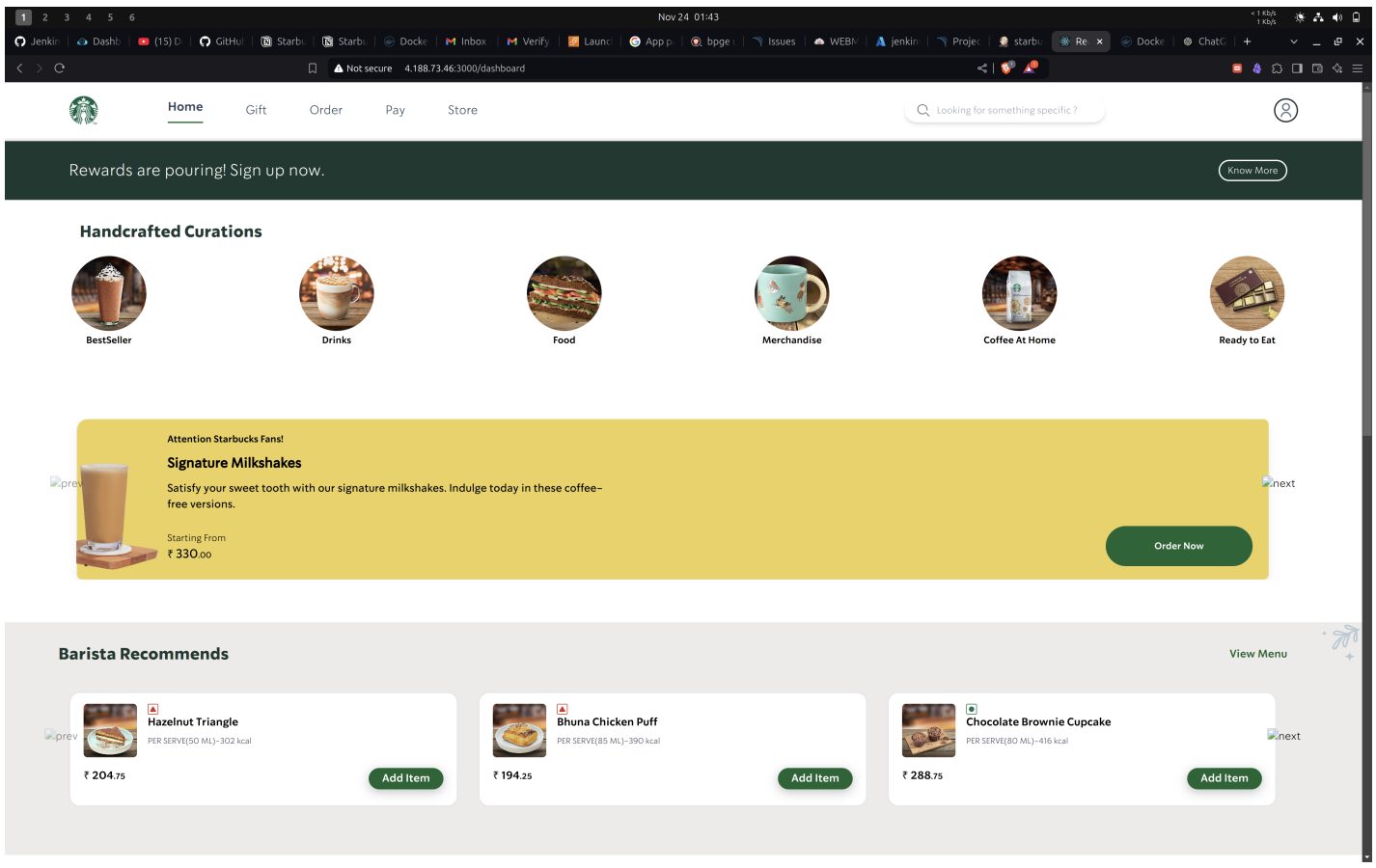
14. Finally Configuring Jenkins is complete
    Now goto → dashboard and click Build Now
    wait for the build to complete (will take more time as OWASP is running)




```
[Pipeline] }
[Pipeline] // withEnv
[Pipeline] }
[Pipeline] // stage
[Pipeline] stage
[Pipeline] { (Declarative: Post Actions)
[Pipeline] emailext
Sending email to: master77roshi@gmail.com
[Pipeline] }
[Pipeline] // stage
[Pipeline] }
[Pipeline] // withEnv
[Pipeline] }
[Pipeline] // withEnv
[Pipeline] }
[Pipeline] // node
[Pipeline] End of Pipeline
Finished: SUCCESS
```

15. Voila! the build is complete!
    Check your dockerhub Repo
    Check http://<public_IP_address_of_VM>:3000 to see the live application




Nov 24 01:43
Not secure 4.188.73.46:3000/dashboard
Home
Gift
Order
Pay
Store
Looking for something specific ?
Rewards are pouring! Sign up now.
Know More
Handcrafted Curations
BestSeller
Drinks
Food
Merchandise
Coffee At Home
Ready to Eat
Attention Starbucks Fans!
Signature Milkshakes
Satisfy your sweet tooth with our signature milkshakes. Indulge today in these coffee-free versions.
Starting From
₹ 330.00
Order Now
Barista Recommends
View Menu
Hazelnut Triangle
PER SERVE(50 ML)-302 kcal
₹ 204.75
Add Item
Bhuna Chicken Puff
PER SERVE(85 ML)-390 kcal
₹ 194.25
Add Item
Chocolate Brownie Cupcake
PER SERVE(80 ML)-416 kcal
₹ 288.75
Add Item